

the condition of education 2001



INDICATOR 8

Students' Overall Reading and Mathematics Performance Through 1st Grade

The indicator and corresponding tables are taken directly from *The Condition of Education 2001*. Therefore, the page numbers may not be sequential.

Additional information about the survey data and supplementary notes can be found in the full report. For a copy of *The Condition of Education 2001*, visit the NCES web site (<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001072>) or contact ED PUBs at 1-877-4ED-PUBS.

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NATIONAL CENTER FOR EDUCATION STATISTICS

U.S. Department of Education
Office of Educational Research and Improvement

Early Childhood Outcomes

Students' Overall Reading and Mathematics Performance Through 1st Grade

Differences in children's reading and mathematics performance persist across the kindergarten and 1st grade years.

The early years of school mark a time of rapid development and learning. Young children acquire the reading and mathematics knowledge and skills that prepare them for future years of schooling and life. In 1998, the knowledge and skills of children who entered kindergarten varied according to their family background (*Indicators 11 and 12, The Condition of Education 2000*). Whether these differences narrow or widen over the course of their schooling is an important measure of educational equity.

Across kindergarten and 1st grade, children demonstrated significant gains in reading and mathematics knowledge and skills. During kindergarten, the average reading scale scores increased by 10 points, or about one standard deviation. In 1st grade, when many children learn to read, children's average reading scale scores increased by 19 points, or about two standard deviations. In mathematics, children's average scale scores increased by 8 and 10 points in kindergarten and 1st grade, respec-

tively, or about one standard deviation in each grade (see supplemental table 8-1).

Children entered kindergarten with knowledge and skills that differed by their mother's education, and these gaps have persisted or increased through the first 2 years of school. Although children's reading gains in kindergarten did not differ by the level of their mother's education, 1st-graders whose mothers had at least a high school diploma demonstrated greater gains than children whose mothers had less education. In mathematics, the gains in each year were not statistically different.

In reading, kindergartners whose mothers had less than a high school education had average scale scores in the spring that were similar to the scores in the fall among those children whose mothers had a bachelor's degree or higher. The same pattern was evident in mathematics for both kindergartners and 1st-graders.

NOTE: A standard deviation provides information about the distribution of students' scale scores. In a normal distribution, 68 percent of scores fall within plus or minus one standard deviation of the mean, and 95 percent fall within plus or minus two standard deviations of the mean. The reading scale score ranged from 0–72, and the mathematics score from 0–64. Based on those assessed in English (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children). Based on children who entered kindergarten for the first time in fall 1998.

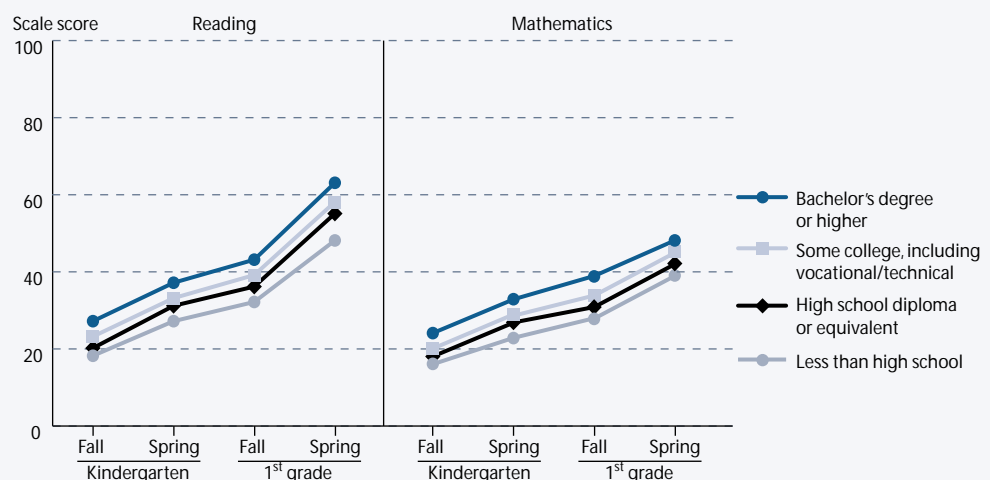
SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.



FOR MORE INFORMATION:
Supplemental Notes 1, 8
Supplemental Table 8-1

NCES 2001–023, NCES
2000–070, NCES 2000–
062, Indicators 11, 12

EARLY READING AND MATHEMATICS PERFORMANCE: Children's overall reading and mathematics performance from kindergarten through 1st grade, by mother's education: 1998–2000



Students' Overall Reading and Mathematics Performance Through 1st Grade

Table 8-1 Children's reading and mathematics scale scores from kindergarten through 1st grade, by mother's education: 1998–2000

Mother's education	Kindergarten			1 st grade			Total gain ²
	Fall	Spring	Gain ¹	Fall	Spring	Gain ¹	
Reading							
Total	23	33	10	38	57	19	34
Less than high school	18	27	9	32	48	16	30
High school diploma or equivalent	20	31	11	36	55	19	35
Some college, including vocational/technical	23	33	10	39	58	19	35
Bachelor's degree or higher	27	37	10	43	63	20	36
Mathematics							
Total	20	28	8	34	44	10	24
Less than high school	16	23	7	28	39	11	23
High school diploma or equivalent	18	27	9	31	42	11	24
Some college, including vocational/technical	20	29	9	34	45	11	25
Bachelor's degree or higher	24	33	9	39	48	9	24

¹Gain is calculated as the difference from fall to spring for kindergarten and 1st grade, respectively.

²Total gain is calculated as the difference in scale score from fall kindergarten to spring 1st grade.

NOTE: Based on those assessed in English for all rounds of the study (excludes 19 percent of Asian/Pacific Islander and 31 percent of Hispanic children) among children who entered kindergarten for the first time in fall 1998. The reading scale score ranged from 0–72, and the mathematics score from 0–64. See *Supplemental Note 8* for more information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K).

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Students’ Overall Reading and Mathematics Performance Through 1st Grade

Table S8 Standard errors for the children's overall reading and mathematics performance from kindergarten through 1st grade, by mother's education: 1998–2000

Mother's education	Kindergarten			1 st grade	
	Fall	Spring		Fall	Spring
Reading					
Less than high school	0.2	0.3		0.5	0.5
High school diploma or equivalent	0.2	0.2		0.4	0.3
Some college, including vocational/technical	0.2	0.2		0.5	0.3
Bachelor's degree or higher	0.2	0.3		0.7	0.3
Mathematics					
Less than high school	0.2	0.3		0.6	0.4
High school diploma or equivalent	0.2	0.2		0.4	0.2
Some college, including vocational/technical	0.1	0.2		0.4	0.2
Bachelor's degree or higher	0.2	0.2		0.4	0.2

SOURCE: U.S. Department of Education, NCES, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.

Students' Overall Reading and Mathematics Performance Through 1st Grade

Table S8-1 Standard errors for the children's reading and mathematics scale scores from kindergarten through 1st grade, by mother's education: 1998–2000

Mother's education	Kindergarten			1 st grade			Total gain
	Fall	Spring	Gain	Fall	Spring	Gain	
Reading							
Total	0.2	0.2	0.3	0.4	0.3	0.5	0.4
Less than high school	0.2	0.3	0.4	0.5	0.5	0.7	0.5
High school diploma or equivalent	0.2	0.2	0.3	0.4	0.3	0.5	0.4
Some college, including vocational/technical	0.2	0.2	0.3	0.5	0.3	0.6	0.4
Bachelor's degree or higher	0.2	0.3	0.4	0.7	0.3	0.8	0.4
Mathematics							
Total	0.1	0.2	0.2	0.4	0.2	0.4	0.2
Less than high school	0.2	0.3	0.4	0.6	0.4	0.7	0.4
High school diploma or equivalent	0.2	0.2	0.3	0.4	0.2	0.4	0.3
Some college, including vocational/technical	0.1	0.2	0.2	0.4	0.2	0.4	0.2
Bachelor's degree or higher	0.2	0.2	0.3	0.4	0.2	0.4	0.3

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) Public-use file.